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								J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	
1		16	LaRC Strategy 1	535 d?	11%	Thu 8/15/02	Thu 9/30/04																				
2		2	Objective 1 - Establish and maintain the Center's commitment and direction for meeting the NASA Software Initiative Implementation Plan's goal	258 d?	36%	Thu 8/15/02	Tue 8/26/03																				
3		3		Organize and plan LaRC SPI activities	166 d	59%	Thu 8/15/02	Wed 4/16/03																			
4		1592		R - FY 03 - Revise Center Plan for LaRC SPI	82 d	80%	Thu 8/15/02	Fri 12/13/02																			
5	 	1845	FY03 Update Center Plan and Schedule	45 d	100%	Thu 8/15/02	Fri 10/18/02																				
6	 	1594	FY 03 - Review Center Plan With SEPG	1 d	100%	Wed 10/23/02	Wed 10/23/02	Pat ,Chuck ,Tina,Jim,Norma,Mike L.																			
7		1595	FY 03 - Review Center Plan with MSG	5 d	20%	Mon 11/25/02	Fri 11/29/02																				
8		1596	FY 03 - Center Plan approved by MSG	5 d	0%	Mon 12/2/02	Fri 12/6/02	Jim																			
9		1597	FY 03 - Brief Senior Management on the Center Plan	1 d	0%	Mon 12/9/02	Mon 12/9/02	Chuck ,Jim																			
10		1598	FY 03 - Center Plan approved	1 d	0%	Tue 12/10/02	Tue 12/10/02																				
11		1992	FY 03 - Deliver Center Plan to HQ OCE	1 d	0%	Fri 12/13/02	Fri 12/13/02																				
12		5	Establish SEPG team processes	52 d	0%	Mon 2/3/03	Wed 4/16/03																				
13		1503	Revise, review, & approve Configuration Management Plan	10 d	0%	Mon 2/3/03	Fri 2/14/03	Pat [50%],Chuck [50%]																			
14		1735	Create, review, and approve tracking mechanism (including process) for SPI effort and resources to assure compliance	4 d	0%	Tue 2/18/03	Fri 2/21/03	Chuck [50%],Scheduler,Pat [50%]																			
15		1736	Create, review, & approve progress/template reporting to MSG/ SQMC	4 d	0%	Wed 3/5/03	Mon 3/10/03	Pat [50%],Chuck [50%]																			
16	 	1739	Create, review, & approve process description to annually prioritize software training needs	2 d	0%	Mon 3/3/03	Tue 3/4/03	Tina																			
17		1970	Develop checklist for arranging LaRC local training	1 d	0%	Wed 4/16/03	Wed 4/16/03	Pat ,Tina																			
18	 	326	R - Communicate SPI activities and progress to management and the LaRC SW community	186 d	7%	Thu 10/10/02	Thu 7/10/03																				
19	 	411	R - Communicate SPI activities and progress with SW community	1 d	100%	Thu 10/10/02	Thu 10/10/02	Pat ,Jim,Tina																			
20	 	412	R - Communicate SPI activities and progress with SW community	1 d	0%	Wed 12/11/02	Wed 12/11/02	Jim,Tina,Chuck																			
21	 	1660	R - Communicate SPI activities and progress to management and the LaRC SW community	1 d	0%	Thu 4/10/03	Thu 4/10/03	Pat ,Jim,Tina																			

ID		Unique ID	Task Name	Duration	% Complete	Start	Finish	2003																		
								J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
22	 	1661	R - Communicate SPI activities and progress to management and the LaRC SW community	1 d	0%	Thu 7/10/03	Thu 7/10/03	Pat ,Jim,Tina																		
23		1857	Status Briefing to the Competency	21 d	0%	Mon 1/13/03	Tue 2/11/03																			
26		481	Analyze metrics collected at LaRC and use as basis for improvement	102.25 d?	19%	Tue 10/1/02	Tue 3/4/03																			
27		1894	R - Collect Agency software metrics and characteristics	1 d?	0%	Tue 10/1/02	Tue 10/1/02	Norma,Jim																		
28		294	R - Analyze Agency and Center software metrics	15 d	22%	Wed 1/15/03	Wed 2/5/03	 Arlyne,Norma																		
29		1991	R - Review analysis of Agency and Center software metrics	1 d	0%	Mon 3/3/03	Mon 3/3/03	 Norma																		
30	 	300	R - Prioritize new improvement opportunities based on metrics analysis and schedule implementation of LMS associated improvements	2 h	0%	Tue 3/4/03	Tue 3/4/03	 Norma																		
31		329	Perform management, tracking, and oversight of SPI activities	226 d	40%	Tue 10/1/02	Tue 8/26/03																			
32	 	345	R - Report status of schedule and progress to MSG	2 d	0%	Thu 1/30/03	Fri 1/31/03																			
33	 	372	R - Report status of schedule and progress to SQMC	0.5 d	0%	Fri 4/18/03	Fri 4/18/03																			
34		1969	R- Annually prioritize software training needs Funded by Code FT	2 d	0%	Mon 4/7/03	Tue 4/8/03	Pat ,Chuck ,Tina,Jim,Norma,Mike L.																		
35	 	1573	R - Update and resubmit Code AE POP Call	11 d	0%	Mon 5/19/03	Tue 6/3/03	 Pat ,Chuck																		
36	 	727	R - Update Center Plan and Schedule for FY 04	8 d	0%	Fri 8/15/03	Tue 8/26/03	 Pat ,Chuck ,Sche																		


Fri 12/13/02











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54		18	SEC - Assess software development capability and plan TWG activities	250 d	0%	Tue 10/1/02	Tue 9/30/03																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

Fri 12/13/02

ID		Unique ID	Task Name	Duration	% Complete	Start	Finish	2003																			
								J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	
108		1926	Pilot pre- and post-award improvements on specific contract (ROME)	137 d	0%	Thu 3/20/03	Wed 10/1/03																				
115		1912	Pilot post-award improvements on specific contracts (CONITS)	55 d	0%	Wed 1/15/03	Thu 4/3/03																				
120		2222	Transition successfully piloted artifacts (e.g. practices, lessons learned, guidance)	1 d	0%	Wed 10/1/03	Wed 10/1/03																				
122		1849	Improve compliance with LMS acquisition procedure	145 d	0%	Fri 11/1/02	Tue 6/3/03																				
130		1622	Objective 3a - Work toward development of organizational standard software processes (LMS)	185 d	0%	Mon 1/13/03	Fri 10/3/03																				
131		1623	Modify LMS software procedures to conform to Agency Plan and Implement Improvements	185 d	0%	Mon 1/13/03	Fri 10/3/03																				
132	 	1624	Review and determine LMS mods based on existing gap analysis between Software LMS procedures and "policies" required by CMMI	0 d	0%	Mon 1/13/03	Thu 1/16/03																				
133	 	1625	Correct and improve LMS software procedures	128 d	0%	Fri 1/17/03	Mon 7/21/03																				
134		1963	Review updated procedures with SEPG	5 d	0%	Tue 7/22/03	Mon 7/28/03																				
135	 	1964	Rework and QA SEPG reviewed LMS software procedures	7 d	0%	Tue 7/29/03	Wed 8/6/03																				
136		1958	Disposition review comments from Center	5 d	0%	Thu 8/7/03	Wed 8/13/03																				
137		1996	Update training materials (examples) for revised LMS procedures	3 d	0%	Thu 8/14/03	Mon 8/18/03																				
138		1629	R - Conduct training of revised LMS software procedures	5 d	0%	Tue 8/19/03	Mon 8/25/03																				
139	 	1627	Modify LMS software procedures to conform to Agency NPDs/NPGs	1 d	0%	Wed 10/1/03	Wed 10/1/03																				
140	 	1648	Modify LMS software procedures to conform to Agency criteria	1 d	0%	Thu 10/2/03	Thu 10/2/03																				
141	 	1628	Modify LMS procedures for external partnerships	1 d	0%	Fri 10/3/03	Fri 10/3/03																				
142		1742	Review existing contracts that include mission critical software	23 d	0%	Wed 3/12/03	Fri 4/11/03																				

Fri 12/13/02

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208		1986	Review Software Assurance Guidebook (Draft)	21 d	0%	Wed 7/9/03	Wed 8/6/03																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</

ID		Unique ID	Task Name	Duration	% Complete	Start	Finish	2003																		
								J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
243		1671	O - Perform risk management activities according to center plan - RM plan	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
244		1672	O - Update and maintain the SEPG WBS/schedule (this includes providing the necessary reports associated with the updates)	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
245		1673	O - Provide technical and schedule status for Org 1 process improvement in MS Project	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
246		1674	O - Maintain SPI Website	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
247		1675	O - Support SWG activities	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
248		1676	O - Support Agency Strategy 1 activities	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
249		1985	O - Support Agency Strategy 4 Training Activities	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
250		1754	O - Update and maintain SWG WBS/schedule (this includes providing the necessary reports associated with the updates)	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
251		1677	O - Manage SPI Training Activities	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
252		1679	O - Provide status to Org 1 through Org N	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
253		2202	O - Provide a monthly SEPG status log	250 d	0%	Tue 10/1/02	Tue 9/30/03																			
255		1726	VACATION	195 d	8%	Tue 10/15/02	Fri 7/25/03																			

2004								2005								2006								2007								2008																
F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N			

2004								2005								2006								2007								2008													
F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N

2004								2005								2006								2007								2008													
F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
Norma, Mike L., Kay																																													
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S#.O#.A#.T# denotes the Strategy, Objective, Approach, and Task elements. Page 13 Fri 12/13/02

1 LaRC Strategy 1

- Implement a continuous software process and product improvement program across NASA LaRC and its contract community.
- Use CMMI and SA-CMM along with other successful improvement models to provide a framework for Software Process Improvement, particularly for organizations that develop complex or mission-critical software.

Text 1 = Deliverables

Text 2 = BOE

Text 3 = Strategy Objective Approach Task Elements (SOAT)

Text 6 = Actual Hrs

Resource Names = RN

Color Coding Legend (as defined in the decision list - decision #13)

For LaRC_Center_Plan (mpp file) the following 'legend' will be used:

- a) for brand new tasks, the entire task entry is 'red' font,
- b) for changes to existing tasks, only the field that has changed will be in 'red' font,
- c) for tasks requiring discussion then the entire entry will be in 'teal' font,
- d) tasks requiring immediate attention will be in "fuchsia" font,
- e) tasks that are to take place beyond the current fiscal year will appear in "silver" font.

R - Indicates recurring tasks. As recurring tasks finish, the next recurring task will be added to the schedule.

O - Indicates ongoing tasks. Ongoing tasks occur continuously throughout the fiscal year.

Until a task can be estimated accurately the resource name should not be assigned (but should be recorded in the BoE).

Hours for tasks involving review of a product by more than one SEPG member are accounted for in the BoE by stating "(SEPG meeting)." Only the principal resource is identified in the resource name.

2 Objective 1 - Establish and maintain the Center's commitment and direction for meeting the NASA Software Initiative Implementation Plan's goal

Establish the Center's commitment and direction for meeting the NASA Software Initiative Implementation Plan's goal through the development, approval, and implementation of the supporting Center Plan for LaRC Software Process Improvement.

5 FY03 Update Center Plan and Schedule

This task recurs once per year.

FY 04 - Brainstorm Ideas for WBS and Schedule

Reference to WBS URL is deleted and put (mpp or pdf) instead in delivery email.

6 FY 03 - Review Center Plan With SEPG

Schedule Briefing on the Center Plan with SQMC.

- 9 FY 03 - Brief Senior Management on the Center Plan
Request approval of the Center Plan from SQMC and Center Director.
This task will occur at the same time as "Report status of schedule and progress to SQMC " for this one occurrence.
- Briefing not given - Pat on vacation.
- 12 Establish SEPG team processes
Risk Management - Look at table from OSMA emailed to Pat on 7/23/01 for augmenting the RM attributes already defined in the Center Plan - SEPG
- 14 Create, review, and approve tracking mechanism (including process) for SPI effort and resources to assure compliance with Agency and Center Plans
Schedule analyst will work this with the SEPG (Schedule Updating Process Will Be Documented And Posted To The Private Web Page). - Mike P
- 16 Create, review, & approve process description to annually prioritize software training needs
Document the process to annually prioritize training needs and coordinate with LaRC Training Office for funding. Use inputs from various sources, including survey results, to create the prioritized list.
- 18 R - Communicate SPI activities and progress to management and the LaRC SW community
Provide informal briefings to management and SW developers about recent and on-going activities and SPI progress (format to be determined at each briefing). This does not include MSG meetings.
- This task reoccurs quarterly (beginning of the quarter).
- 19 R - Communicate SPI activities and progress with SW community
Highlights should be submitted through each competency.
- 20 R - Communicate SPI activities and progress with SW community
Highlights should be submitted through each competency.
- 21 R - Communicate SPI activities and progress to management and the LaRC SW community
Highlights should be submitted through each competency.
- 22 R - Communicate SPI activities and progress to management and the LaRC SW community
Highlights should be submitted through each competency.
- 27 R - Collect Agency software metrics and characteristics
Comment from Jim (12/5/02): This task hasn't started yet; I haven't been trained and NASA has put the whole activity on hold until Dec 18 while some objections are answered. I am spending about a half-hour a week - I won't have a BoE for what I am doing until I am trained.
- Comment from Norma (12/5/02): This activity has not started. For the week of Dec 9th - 2hrs prep and 4hrs training. For the week of Dec 16th - 8hrs identify projects for metrics gathering. For the week of Jan 3rd - 16hrs gathering metrics. For the week of Jan 9th - 16hrs gathering and reporting. For the week of Jan 16th - 8hrs to report.
- 28 R - Analyze Agency and Center software metrics
These are the checkpoints at which (a) cost estimations, (b) schedules estimations, and (c) defect density are evaluated against previous baseline.
- ID Data Anomalies for SEPG Discussion.
Use the above to determine possible LMS improvements.
- This tasks recurs at the end of each quarter with a year end summary on the 2nd Monday in October.
- All SEPG members need to be included in the Quarterly and Yearly review.

- 30 R - Prioritize new improvement opportunities based on metrics analysis and schedule implementation of LMS associated improvements
This tasks recurs end of each quarter with a year end summary on the 2nd Monday in October.
- 32 R - Report status of schedule and progress to MSG
This task occurs once every quarter (reuse quarterly report to HQ)
- 33 R - Report status of schedule and progress to SQMC
This task recurs twice yearly.
- One of the occurrences is done at the same time as "FY 03 - Brief Senior Management on the Center Plan. "
- Will include data from annual status report to HQ.
- 35 R - Update and resubmit Code AE POP Call
LaRC Administrative PoC (Sherry Araiza Business Resource and Analysis Branch) needs to be consulted about new rules on cost and FTE estimates.
- This task recurs yearly
- 36 R - Update Center Plan and Schedule for FY 04
This task recurs once per year.
FY 04 - Brainstorm Ideas for WBS and Schedule
- 37 R - Update Performance Plan of Associate Director for R&T Competencies
To include responsibility for success of LaRC Center Plan for SPI - Chuck monitors
- 38 R - Prepare and submit quarterly status report to OCE
Due withing 30 days of the end of each quarter.
- 39 R - Prepare and submit quarterly status report to OCE
Due withing 30 days of the end of each quarter.
- 40 R - Prepare and present annual status report to HQ OCE
NASA Software Initiative Implementation Plan requires an annual status report on the Center Plan to the OCE and SWG, including evaluation of how well LaRC is following the Agency and Center Plans and SEPG feedback of successes and concerns.
- This tasks recurs once yearly
- 42 R - Evaluate Software Assurance Research Program (SARP) Proposals
Takes place once per year - this task is the window during which SEPG members, et al review proposals. The expected duration for evaluating proposals is 5 days per person.
- 43 Succession Planning and Transition
Current SEPG members that plan to retire need to identify replacement before they retire and participate in transition.
- Discuss at future SEPG meeting.
- Add task to cover Norma and Tina successors.

- 45 **Identify and perform Atmospheric Science Competency process improvement**
Pat and Chuck will have lunch with Kay. This is a placeholder.
- 46 **Objective 2 - Determine the current level of software development capability relative to the CMMI for selected organizations**
Determine the current level of software development capability relative to the Capability Maturity Model for selected organizations and to identify existing best practices for use in SPI activities. Target improvement opportunities selected on the basis of priority, resources, and expected benefits.
- 47 **Identify candidate organizations for SPI**
Identify candidate organizations for SPI through meetings with MSG and determine
(1) which branches are candidates for early SPI implementation and
(2) which branches participate in Mission Critical development and/or acquisition
- No additional organizations were identified for FY 03.**
- 48 **Conduct Level 2 Assessment of Project Integrated Reliability for Research (PIRR)**
Assessments can be conducted on one or more PA's or on a Level.
- 52 **CMM-SW SCE (CMMS)**
Staffing required: 3 SEPG personnel;
If Chuck and Pat are not using AL, then should participate (i.e. delay)
- 53 **Provide technical support to PIRR**
This task is a placeholder. The specific support needs to be identified.
Identify when an assesment will be done.
Approximate timeframe for second assesment is Q2 FYO3.
- 54 **SEC - Assess software development capability and plan TWG activities**
Assess the current capability for selected organizations and plan specific process areas for TWG activities
- 55 **FSSB/SEC TWG Activities**
When D Haakenson's schedule items are ready, they will be placed here.
More detail concerning PCM activities for Org N can be found on aeroCOMPASS (go to: 1) SEPG Operational Documents, 2) WBS-Schedule, and 3) PCM_WBS.mpp).
- 56 **Update PA spreadsheet**
Profile has been completed by Dave H with Org 1 data.
According to Mark Kram the product is done. The QA has not been done.
- 57 **Establish and Maintain Org 1 CMMI Gap Analysis Spreadsheet**
Create Organizational Profile.
Perform a combined self-assessment and organizational scan of selected organizations
Questionnaire and spreadsheet filled in with selected, interviewed organizations
- Initial Organizational Gap Analysis for Org 1 is TBD (deliverable 5.2)**
- Incorporate approved updates on a monthly basis as TWG action plans are executed and improvements are deployed on GIFTS, CALIPSO, and X-43C. Final organizational Gap Analysis for Org 1 is dependent upon the successful acheivement of CMMI Level 2 and 3 by all targeted projects with the organization (deliverable 5.3)**
- 58 **Develop WBS based on prioritized 12207 Life Cycle Process Groupings**
Reference Dave H's slide presentation (slide 10). Training?
- 59 **Develop schedule for Org 1 activities**
This task is a placeholder.
- 60 **Develop Schedule for Product and Process Quality Assurance PA improvements**
Task Requirements:

Incorporate approved updates on a weekly basis. Incorporate OMA SQA Process Improvement Schedule into SEPG Schedule within 2 weeks of SEPG review and approval (Item 6.5 from the ConITS Task Plan).

JSC has gotten to level 2 by incorporating their SQA org in their level 2 assessment (flight software).

Jay and Rico coordinate with Leslie Johnson to determine schedule for LaRC SQA process development - Similar to schedule created with org 1 to address SQA PA weaknesses for LaRC.

Need duration/dates - Jay will get with Leslie to determine this information.

- 61 Provide the initial OMA gap analysis spreadsheet

Task Requirements:

Initial OMA Gap Spreadsheet is TBD (deliverable 6.1)

- 62 Update OMA gap analysis spreadsheet to document all CALIPSO compliances and non-compliances

Task Requirements:

Updated OMA Gap Spreadsheet is TBD.

- 63 Update the OMA Gap Analysis Spreadsheet

Task Requirements:

Incorporate approved updates on a monthly basis as TWG action plans are executed and improvements are deployed. Final OMA Gap Analysis is dependent upon successful achievement of CMMI Level 2 and 3 by all targeted projects supported by OMA (deliverable 6.3)

- 64 Provide prioritized list to address non-compliances and associated recommendations for SQA

Task Requirements:

TBD; dependent upon the OMA SQA group availability.

- 65 Create and maintain the OMA SQA Process Improvement schedule in MS Project Format

ConITS should use the Mastering Process Improvement PCM steps to structure the schedule for these tasks.

Incorporate approved updates on a weekly basis. Incorporate OMA SQA Process Improvement Schedule into SEPG Schedule within 2 weeks of SEPG review and approval (deliverable 6.5)

- 66 Provide technical support for PPQA improvements

This is a placeholder to extend the duration to the end of the fiscal year until the schedule is created

- 68 Provide Draft Requirements Capture and Management Procedures for GIFTS

Task Requirements:

TBD; dependent upon input from GIFTS-IOMI.

- 69 Provide updates to the Draft Requirements Capture and Management process and procedures for GIFTS

Task Requirements:

TBD; dependent upon the Requirements Documentation and Management training provided by Ivy Hooks and dependent upon input from the GIFTS-IOMI SEWG, Ivy Hooks, and the SEPG (deliverable 7.3)

- 70 Provide recommended changes based on the pilot results and approved updates to the Draft Requirements Capture and Management process and procedures for GIFTS

Task Requirements:

TBD; dependent upon pilot schedule and input from GIFTS-IOMI and the SEPG (deliverable 7.4)

- 71 R- Provide Training and Mentoring in Formal Inspections

This should occur over a 16 week period from Oct 2002 - Jan 2003.

- 73 AirSC - Initiate task for the following: Assess software development capability and plan TWG activities (see 03 AE POP Call for dates)

11/1/02 (Pat/Victoria) - Schedule delayed by 2 quarters to focus on PSP functional improvements (also strong focus on improving estimates was started after the PSP/TSP pilot reassessment).

Assess the current capability for selected organizations and plan specific process areas for TWG activities

- 87 Software Acquisition Improvements

The assessments under this approach will be made against the Software Acquisition CMM (SA-CMM) or the Supplier Agreement Management (SAM) Process Area of the CMMI

91 Develop LaRC Roadmap and Briefing To Stakeholders

Roadmap includes identification of key personnel (both from Procurement and Competencies) for involvement in this SS improvement by Mike/Chuck. Brief to MSG and Acquisitions branch heads by B. Gallagher.

Resources for supporting the review and briefing are covered under regular SEPG meetings (ongoing task).

92 Collect existing Centers lessons learned

During the startup of the activity the SWG needs to look internal to NASA to leverage what the Centers have already learned (JSC ISS, SIROP, GSFC EOSDIS, LaRC EOSDIS) with respect to successful software acquisition efforts.

93 Agency level acquisition improvements

Look at 7120 assessments SMO / IPAO, NASA FAR. Determine what role they can play to assess, evaluate, and improve software acquisition, contract management oversight, and quality of deliverables

108 Pilot pre- and post-award improvements on specific contract (ROME)

Document pros/cons

Incorporate improvements

115 Pilot post-award improvements on specific contracts (CONITS)

Document pros/cons

Incorporate improvements

122 Improve compliance with LMS acquisition procedure

The following are meeting minutes here for historical reference only:

Approach to data mining metrics data

Address two problems:

1) Lack of completion reports and incomplete data in many of reports we have

a) Incomplete data reporting. Check to see if there is a pattern. If so make calls to see why difficulties in completing form.

b) Lack of completion reports - check to see if projects are complete. See if can develop some kind of automatic reminder to complete reports at end of project.

2) Verify participation from contracted software development

a) Start with Conits tasks. Print list of tasks under Conits. Check to see if they are in the risks rating data base. If not check to make sure software is involved

b) Check Sam McPherson's web-based task generator for Conits and see how close it is to the required acquisition document. This should serve as the software acquisition plan

c) Get estimate from Sam as to how many tasks involve software.

d) Compare these estimates with risk rating sheet entries.

e) Report differences to COTR

f) If differences are large, setup meeting with COTR and task monitors and discuss software requirements.

Do RIMS next. Others to contact - Swales, the contract EOS falls under, and find out other contracts that could have software development.

132 Review and determine LMS mods based on existing gap analysis between Software LMS procedures and "policies" required by CMMI

Glenn Research Center is doing gap analysis between org policies. Look at gap between Software LMS procedures and "policies" required by CMMI to determine if LMS procedures need updating to cover CMMI Reqs. Look at Level 2 and 3 PA to determine when policies are called out. - Look at M.Kram's existing gap analysis.

Should be complete before LMS updates

133 Correct and improve LMS software procedures

Correct deficiencies reported by various users that have been outstanding for at least a year and a half.

Note from Jim (12/5/02): I am spending half time on SEPG projects, of which this is the current major one. It will take about 16hrs a week for the next two months or so, working with Mike Lightfoot. He and I will travel to Goddard Space Flight Center on Dec. 12 to meet with Tim Olson about the direction we are taking for improving LMS CP-5528. After that, we will meet with Chuck Niles to get his list of corrections to the procedures. Then we can put together a schedule for accomplishing the modification.

The current BoE for me is "all of the time I have available" for the next few months. The deliverables will be 1) an outline and prototype of LMS CP-5528 for the SEPG review, 2) the draft CP, 3) the LMS review version, and 4) the final version. Similarly there will be draft, review, and final versions of CP-5529 and CP-5532. I won't know the durations of the activities until I have some experience to form a BoE for how long each will take. I hope to have #1 above for the SEPG meeting on Jan. 18.

135 Rework and QA SEPG reviewed LMS software procedures

Correct deficiencies reported by various users that have been outstanding for at least a year and a half.

136 Disposition review comments from Center

This is done using the normal LMS review process. Disposition must be approved by the MSG.

139 Modify LMS software procedures to conform to Agency NPDs/NPGs

Updates must include those required to conform to the requirements of NPD 2820, NPG 2820, NPD 8730, and NPG 8730.

Date depends on Administrator signoff.

140 Modify LMS software procedures to conform to Agency criteria

This item can not be started until NPG 2820 is approved.

Software and software acquisition procedures are modified to conform to the criteria in the NASA Software Initiative Implementation Plan for both mission-critical and non mission-critical software classes (see Table 2-1 of the Agency Plan).

Define the CMM capability that will be achieved for each non-mission critical software class.

For completeness, consider the link between the LMS and CMM software process improvement activities.

141 Modify LMS procedures for external partnerships

Work with Center Program Offices to identify external partners (including international partners) who are supplying software for LaRC projects and determine for each one supplying mission-critical software whether the Center can negotiate to have the software developed by a CMM Level 3 (or equivalent) organization.

Work with Program Office to determine how Center will attempt to have all plans and agreements with external partners conform to Initiative Criteria and identify and update LMS procedures as needed.

145 Improve LMS software procedures Based On CMMI Improvements

The Langley Management System (LMS) Office controls approval and release of LaRC Center Procedures and is the main interface for ISO audits. The SEPG works with the LMS Office in defining and updating software procedures, but is dependent on it's (LMS Office) schedules for their approval and release.

These tasks are set to occur beyond FY03 and only serve as a reminder for what needs to go in the FY04 schedule.

156 Objective 3b - Schedule activities for the following: work toward development of organizational standard software processes (CMMI Level 3 capability)

Work toward development of organizational standard software processes and work with multiple project partners to bring them up to CMMI Level 3.

These tasks are set to occur beyond FY03 and only serve as a reminder for what needs to go in the FY04 schedule.

- 195 Technology transfer pilot of PSP/TSP & PSP/TSP (f) for selected research project groups

Arrange training on process improvement methods, such as Personal Software Process and Team Software Process (PSP/TSP), for organizations involved in research-oriented software development, to improve the knowledge and skills of software engineers

- 197 Coordinate/provide PSP/TSP (f) training and Pilot Planning for AirSC
Complete Jerry Garcia's "Train the trainer" program

Work With SEI To Define A Roadmap of All work Left to be complete(Include Airborne and Structures) . - Tina

Org=2220 hrs {trng_engr(96h X 20p) +trng_mgmt(30h X 10p)}

- 198 O - Monitor and assist PSP/TSP & PSP/TSP (f) pilots
Applies to Org 2 and Org 4.

- 199 Evaluate PSP/TSP & PSP/TSP (f) for more general application
Evaluate suitability of PSP/TSP methodology for more general application at LaRC

Applies to Org 2 and Org 4.

- 201 LaRC Strategy 2 - Support Agency strategy to improve safety, reliability and quality of software through the establishment and integration of sound software engineering principles and standards.
Deliverables are tracked at the agency level WBS.

Support Agency Strategy 2 activities which are defined in the Strategy WBS. The following are "tasks" that LaRC will accomplish to help meet the Strategy approaches.

When Software assurance NPD/ NPG Done, Augment LaRC Center procedures with updated Agency SW SR&QA policy

- 202 **Review Revised Draft of New Software Assurance Standard**
 SA standard subgroup will provide for Strategy 2 subgroup review.
- 203 **Strategy 2 Review New Software Assurance Standard**
 SA standard subgroup will provide for Strategy 2 subgroup review.
- 204 **Disposition and incorporate Agency comments into Software Assurance Standard**
 Cannot proceed until comments received from Agency review.
- 206 **Disposition and incorporate Agency comments into Software Safety Standard**
 Cannot proceed until comments received from Agency review.
- 209 **Brief PMC on Software Assurance Improvement effort**
 Martha Wetherholt has created a standard SA presentation that will be reviewed, revised, and accepted by the Software Assurance Sub-group.
- 210 **Identify and select Software Assurance metrics**
 The intent is to identify a minimum set of metrics that can be automated (to the extent possible) to help determine how well the software assurance improvement activities are progressing.
- 211 **Define Software Assurance processes**
 Processes must be defined at Agency and Center levels.

This task is a placeholder for the following items:

- identification of SA practioner training
- skills inventory for current SA practioners
- core SA competencies for the Agency
- trifolds for SA and software safety

This allows 20 hrs per process, assumption is 6 processes.

212 LaRC Strategy 3 - Support Agency strategy to improve NASA software engineering practices through research
Support Agency strategy to improve software engineering practices through research.

213 Identify LaRC Rep For Strategy 3
Need support for agency strategy 3 subgroup. The following SEPG members will solicit a LaRC rep for this strategy; Rickey Buttler, Mike Holloway, Cary Buttrill-Norma Campbell, Brian Mason-Tina Lotts, Olaf Storaasli-Jim Townsend.

Determine if other than Code Q performed and determine if they know of anyone else doing non Code Q research.

214 Implement and transfer new software technologies

This task is a placeholder. When specific technologies are identified corresponding tasks will be entered into the schedule.

Need to look Extreme Programming or Agile Technologies. Needs Discussion.

Implement new software technologies and transfer them throughout industry and academia. This includes investigating and using existing NASA infrastructure for technology transfer, documenting research results on STI Web site, and pursuing funding for researchers to present results at conferences and post on Web, and seek additional funds.

215 O - Provide support to Agency sub-group

This is a placeholder until a LaRC rep to the sub-group is identified and a schedule is created.

216 LaRC Strategy 4 - Support Agency efforts to attract and retain software engineers and improve knowledge and skills

Support SWG efforts to attract and retain software engineers and improve their knowledge and skills.

217 Advocate/ Develop use of DCL? promotion evaluation criteria for SWE at LaRC

This may not be feasible. OPM job classification scheme already has provisions for DCL. With the initiation of the PDM (Position Description Management tool) in IFMP this is a selectable item.

Contact Tim Crumbly to see how Marshall addressed this for software folks and examine it for reuse at LaRC - Chuck

The intent of this task is to add software engineer, software manager, and software quality assurance (engineer) to job classification scheme.

Follow up with Bonnie Acavano (HQ) what is on the books at HQ regarding DCL that we can lean on.

Develop Dual Career Ladder (DCL) promotion evaluation criteria for engineering and advocate their use at LaRC.

Develop AST classification scheme for software engineer, software manager, and software quality assurance engineer.

Contact Peggy Phelps Regarding Job Classification Scheme - Chuck

218 Obtain SPI education/training

Educate and train the SEPG in SPI, CMMI, cultural change management, organizational communications, group problem solving, and planning and management...

236 Ongoing Tasks

These tasks include activities such as: SEPG meetings, performing action items, performing CM activities, performing RM activities, update and maintenance of WBS/schedules, etc.

237 O - Maintain SPI libraries and repository

- 1) PI Libraries are collection of general SPI-related information (e.g., books, magazines, conference proceedings)**
- 2) PI Repository is collection of SEPG's SPI artifacts (e.g., Center Plan, SEPG team processes, templates, etc.)**
- 3) Process asset libraries collection of processes, templates, examples, etc.**

238 O - SEPG Meetings

This includes 2 hrs per month for management oversight of Center Plan and contractor status.

- Update & Post Action Items on aeroCOMPASS
- Incorporate specific decisions made during SEPG meetings to aeroCOMPASS

240 O - Perform Action Items

Perform action items issued at SEPG meetings. It is the responsibility of the assignee to analyze the scope of the activity(task) to determine time estimate and level of effort. A request to add a specific task to the WBS in order to perform the activity will be submitted at a subsequent SEPG meeting when the activity (task) time exceeds the amount included in this line item. If appropriate, a task may be added through conversation with the schedule analyst.

241 O - Keep design review panel (see LMS-CP-5505) members informed of Agency and Center software engineering policies and requirements.

The purpose is to ensure program and project compliance with Agency and Center requirements for SPI (e.g. Initiative criteria, NPDs, NPGs). Leslie

242 O - Perform configuration management activities according to SEPG CM plan (maintaining the CI list and storing in the CM library)

CI List: Incorporate approved baselined updates on a weekly basis (deliverable 4.1)

CI Storage: Place CM documentation under CM control, using aero COMPASS as the CM repository within 2 business days of a baseline notification. Outdated files will be archived. The BoE is 4 documents uploaded to aeroCOMPASS per month (deliverable 4.2)

CM Library: As specified in the LaRC SEPG CM Plan. The outline for the report will be submitted to the SEPG for approval before the actual report is drafted (deliverable 4.4)

243 O - Perform risk management activities according to center plan - RM plan

The spreadsheet will be kept current, reviewed with the SEPG, and posted to aero COMPASS monthly. The urgency of a risk may deem an earlier review with the SEPG.

Use force field function exercise from Tim Olsen class as initial set of risks.

244 O - Update and maintain the SEPG WBS/schedule (this includes providing the necessary reports associated with the updates)

Review task plan monthly status and log (Pat, Chuck)

Schedule Updates: Incorporate approved updates on a monthly basis (deliverable 3.1)

Monthly Reports: Post monthly report to aero COMPASS after all schedule updates occur; notify SEPG members by email (deliverable 3.2)

Quarterly Reports: Due by the 15th (or next business day) of the month following the end of the fiscal quarter (deliverable 3.3)

- 245 O - Provide technical and schedule status for Org 1 process improvement in MS Project
Incorporate approved updates on a weekly basis. Incorporate Org 1 Process Improvement Schedule into SEPG Schedule within 2 weeks of SEPG review and approval (deliverable 5.5)
- 247 O - Support SWG activities
This covers preparation and participation for weekly SWG telecons.
- 248 O - Support Agency Strategy 1 activities
- 250 O - Update and maintain SWG WBS/schedule (this includes providing the necessary reports associated with the updates)
Schedule: Incorporate approved updates for each strategy on a monthly basis (deliverable 2.1)
- Reports: TBD; dependent upon SWG member availability (deliverable 2.2)**
- Procedures: TBD; dependent upon SWG member availability (deliverable 2.3)**
- 251 O - Manage SPI Training Activities
Coordinate with CSM and setup classes
- 253 O - Provide a monthly SEPG status log
Due by the 10th (or next business day) of the following month